

ABSTRACT OF THE DISCLOSURE

A process for polymerizing olefins is disclosed. The process polymerizes an olefin in the presence of a dehydrogenation catalyst and an olefin polymerization catalyst. The dehydrogenation catalyst enables in-situ generation of alkenes from oligomers or solvent. The alkenes are 5 then incorporated into the polyolefin. The polyolefin should have increased long-chain branching and lower density without the use of expensive comonomers.